

ABSTRACT OF THE DISCLOSURE

Further, the present invention provides an eddy current sensor capable of stable operation is provided for accurately detecting a polishing end point. The eddy current sensor detects the thickness of a conductive film from a change in an eddy current loss generated in the conductive film. The eddy current sensor comprises a sensor coil for generating an eddy current in the conductive film, and an active element unit connected to the sensor coil for oscillating a variable frequency corresponding to the eddy current loss. The sensor coil and active element unit are integrated to form the eddy current sensor. Alternatively, the eddy current sensor comprises a sensor coil for generating an eddy current in the conductive film, and a detector for detecting a change in the thickness of the conductive film from a change in a resistance component (R) in an impedance formed by the sensor coil and conductive film.